

IN THE CLAIMS:

Please amend claims 1-44 as follows.

1. (Currently Amended) A constant-velocity joint comprising:

an outer member ~~(16)~~ connected to one of two shafts ~~(12, 18)~~ which are angularly movable relative to each other and having an inner circumferential surface having a plurality of first guide grooves ~~(26a—26f)~~ extending in an axial direction thereof, said outer member ~~(16)~~ having an open end;

an inner ring ~~(34)~~ connected to the other of said two shafts and having as many second guide grooves ~~(32a—32f)~~ as the number of said first guide grooves ~~(26a—26f)~~, said second guide grooves ~~(32a—32f)~~ extending in an axial direction thereof;

a plurality of balls ~~(28)~~ rollingly disposed between said first guide grooves ~~(26a—26f)~~ and said second guide grooves ~~(32a—32f)~~, for transmitting a torque between said outer member ~~(16)~~ and said inner ring ~~(34)~~; and

a retainer ~~(38)~~ having retaining windows ~~(36)~~ retaining said balls ~~(28)~~, respectively, therein,

wherein each of said first guide grooves ~~(26a—26f)~~ has a transverse cross section extending perpendicularly to said axial direction and having a single arcuate shape, each of said first guide grooves ~~(26a—26f)~~ being held in contact with a corresponding one of the balls ~~(28)~~ at a single point, and

wherein each of said second guide grooves ~~(32a—32f)~~ has a transverse cross section extending perpendicularly to said axial direction and having elliptically arcuate shape, each of said second guide grooves ~~(32a—32f)~~ being held in contact with a corresponding one of the balls ~~(28)~~ at two points.

2. (Currently Amended) A constant-velocity joint according to claim 1, wherein

ratios of a radius (~~M~~) of each of said first guide grooves (~~26a—26f~~) in a transverse cross section thereof and radiuses (~~P, Q~~) of each of said second guide grooves (~~32a—32f~~) in a transverse cross section thereof to a diameter (~~N~~) of said balls (~~28~~) are set in a range from 0.51 to 0.55, a contact angle of each of the balls (~~28~~) with respect to one of said first guide grooves (~~26a—26f~~) is set to zero on a vertical line (~~L~~) extending across the ball (~~28~~), and a contact angle (α) of each of the balls (~~28~~) with respect to one of said second guide grooves (~~32a—32f~~) is set in a range from 13 degrees to 22 degrees from the vertical line (~~L~~).

3. (Currently Amended) A constant-velocity joint according to claim 2, wherein the contact angle (α) of each of the balls (~~28~~) with respect to one of said second guide grooves (~~32a—32f~~) is set in a range from 15 degrees to 20 degrees from the vertical line (~~L~~).

4. (Currently Amended) A constant-velocity joint comprising:
an outer member (~~16~~) connected to one of two shafts which are angularly movable relative to each other and having a spherical inside-diameter surface having a plurality of first guide grooves (~~26a—26f~~) extending in an axial direction thereof, said outer member (~~16~~) having an open end;

an inner ring (~~34~~) connected to the other of said two shafts and having as many second guide grooves (~~32a—32f~~) as the number of said first guide grooves (~~26a—26f~~), said second guide grooves (~~32a—32f~~) extending in an axial direction thereof;

a plurality of balls (~~28~~) rollingly disposed between said first guide grooves (~~26a—26f~~) and said second guide grooves (~~32a—32f~~), for transmitting a torque between said outer member (~~16~~) and said inner ring (~~34~~); and

a retainer (~~38~~) having retaining windows retaining said balls (~~28~~), respectively, therein,

wherein each of said first guide grooves (~~26a—26f~~) has a curved longitudinal cross section extending in the axial direction and having a center (~~H~~) of curvature, each of said second guide grooves (~~32a—32f~~) has a curved longitudinal cross section extending in the axial direction and having a center (~~R~~) of curvature, and said centers (~~H, R~~) of curvature are offset oppositely in the axial direction by equal distances (~~T~~) from a center (~~K~~) of said spherical inside-diameter surface, and

wherein the ratio V (~~T/N~~) of each of the distances (~~T~~) by which said centers (~~H, R~~) of curvature are offset from said center (~~K~~) of said spherical inside-diameter surface to the diameter (~~N~~) of said balls (~~28~~) is set to satisfy the expression $0.12 \leq V \leq 0.14$.

5. (Currently Amended) A constant-velocity joint according to claim 4, wherein each of said first guide grooves (~~26a—26f~~) has a transverse cross section extending perpendicularly to said axial direction and having a single arcuate shape, each of said first guide grooves (~~26a—26f~~) being held in contact with a corresponding one of the balls (~~28~~) at a single point, and

wherein each of said second guide grooves (~~32a—32f~~) has a transverse cross section extending perpendicularly to said axial direction and having elliptically arcuate shape, each of said second guide grooves (~~32a—32f~~) being held in contact with a corresponding one of the balls (~~28~~) at two points.

6. (Currently Amended) A constant-velocity joint according to claim 5, wherein ratios of a radius (~~M~~) of each of said first guide grooves (~~26a—26f~~) in a transverse cross section thereof and radiuses (~~P, Q~~) of each of said second guide grooves (~~32a—32f~~) in a transverse cross section thereof to a diameter (~~N~~) of said balls (~~28~~) are set in a range from 0.51 to 0.55, a contact angle of each of the balls (~~28~~) with respect to one of said first guide grooves (~~26a—26f~~) is set to zero on a vertical line (~~L~~) extending across the ball (~~28~~), and a contact angle (α) of each of the balls (~~28~~) with respect to one of said second

guide grooves (32a—32f) is set in a range from 13 degrees to 22 degrees from the vertical line (~~L~~).

7. (Currently Amended) A constant-velocity joint according to claim 6, wherein the contact angle (α) of each of the balls (28) with respect to one of said second guide grooves (32a—32f) is set in a range from 15 degrees to 20 degrees from the vertical line (~~L~~).

8. (Currently Amended) A constant-velocity joint comprising:
an outer member (~~16~~) connected to one of two shafts which are angularly movable relative to each other and having an inner circumferential surface having a plurality of first guide grooves (26a—26f) extending in an axial direction thereof, said outer member (~~16~~) having an open end;

an inner ring (34) connected to the other of said two shafts and having as many second guide grooves (32a—32f) as the number of said first guide grooves (26a—26f), said second guide grooves (32a—32f) extending in an axial direction thereof;

six balls (28) rollingly disposed between said first guide grooves (26a—26f) and said second guide grooves (32a—32f), for transmitting a torque between said outer member (~~16~~) and said inner ring (34); and

a retainer (38) having retaining windows retaining said balls (28), respectively, therein,

wherein said first guide grooves (26a—26f) have a pitch circle diameter represented as an outer PCD, said second guide grooves (32a—32f) have a pitch circle diameter represented as an inner PCD, and a PCD clearance represented by a difference between said outer PCD and said inner PCD (the outer PCD - the inner PCD) is set in a range from 0 to 100 μm .

9. (Currently Amended) A constant-velocity joint according to claim 8, wherein a spherical clearance established as a sum of a difference between an outer member inner-spherical-surface diameter which is a diameter of an inside-diameter surface of said outer member (16) and a retainer outer-spherical-surface diameter which is a diameter of an outer surface of said retainer (38), and a difference between a retainer inner-spherical-surface diameter which is a diameter of an inner surface of said retainer (38) and an inner ring outer-spherical-surface diameter which is a diameter of an outer surface of said inner ring (34) is set in a range from 50 to 200 μm in accordance with the following expression:

$$50 \mu\text{m} \leq \{(\text{outer member inner-spherical-surface diameter}) - (\text{retainer outer-spherical-surface diameter})\} + \{(\text{retainer inner-spherical-surface diameter}) - (\text{inner ring outer-spherical-surface diameter})\} \leq 200 \mu\text{m}.$$

10. (Currently Amended) A constant-velocity joint according to claim 8, wherein each of said retaining windows (36) of the retainer (38) has a transverse center which is offset from a center of spherical outer and inner surfaces of said retainer (38) in an axial direction of the retainer (38) by a distance ranging from 20 to 100 μm .

11. (Currently Amended) A constant-velocity joint comprising:
an outer member (16) connected to one of two shafts which are angularly movable relative to each other and having an inside-diameter surface having a plurality of first guide grooves (26a—26f) extending in an axial direction thereof, said outer member (16) having an open end;

an inner ring (34) connected to the other of said two shafts and having as many second guide grooves (32a—32f) as the number of said first guide grooves (26a—26f), said second guide grooves (32a—32f) extending in an axial direction thereof;

six balls (28) rollingly disposed between said first guide grooves (26a—26f) and

said second guide grooves (32a—32f), for transmitting a torque between said outer member (16) and said inner ring (34); and

a retainer (38) having retaining windows retaining said balls (28), respectively, therein,

wherein said first guide grooves (26a—26f) have a pitch circle diameter represented as an outer PCD, said second guide grooves (32a—32f) have a pitch circle diameter represented as an inner PCD, and a ratio (D_p/D) of a dimension (D_p) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, to a diameter (D) of an inner-ring serrated-region inside-diameter surface on an inner wall of said inner ring (34) is set in a range of $1.9 \leq (D_p/D) \leq 2.2$.

12. (Currently Amended) A constant-velocity joint comprising:

an outer member (16) connected to one of two shafts which are angularly movable relative to each other and having an inside-diameter surface having a plurality of first guide grooves (26a—26f) extending in an axial direction thereof, said outer member (16) having an open end;

an inner ring (34) connected to the other of said two shafts and having as many second guide grooves (32a—32f) as the number of said first guide grooves (26a—26f), said second guide grooves (32a—32f) extending in an axial direction thereof;

six balls (28) rollingly disposed between said first guide grooves (26a—26f) and said second guide grooves (32a—32f), for transmitting a torque between said outer member (16) and said inner ring (34); and

a retainer (38) having retaining windows retaining said balls (28), respectively, therein,

wherein said first guide grooves (26a—26f) have a pitch circle diameter represented as an outer PCD, said second guide grooves (32a—32f) have a pitch circle diameter represented as an inner PCD, and a ratio (D_b/D_p) of a diameter (D_b) of said

balls (28) to a dimension (~~Dp~~) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, is set in a range of $0.2 \leq (D_b/D_p) \leq 0.5$.

13. (Currently Amended) A constant-velocity joint comprising:

an outer member (16) connected to one of two shafts which are angularly movable relative to each other and having an inside-diameter surface having a plurality of first guide grooves (26a—26f) extending in an axial direction thereof, said outer member (16) having an open end;

an inner ring (34) connected to the other of said two shafts and having as many second guide grooves (32a—32f) as the number of said first guide grooves (26a—26f), said second guide grooves (32a—32f) extending in an axial direction thereof;

six balls (28) rollingly disposed between said first guide grooves (26a—26f) and said second guide grooves (32a—32f), for transmitting a torque between said outer member (16) and said inner ring (34); and

a retainer (38) having retaining windows retaining said balls (28), respectively, therein,

wherein said first guide grooves (26a—26f) have a pitch circle diameter represented as an outer PCD, said second guide grooves (32a—32f) have a pitch circle diameter represented as an inner PCD, and a ratio (~~Do/Dp~~) of an outside diameter (~~Do~~) of said outer member (16) to a dimension (~~Dp~~) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, is set in a range of $1.4 \leq (D_o/D_p) \leq 1.8$.

14. (Currently Amended) A constant-velocity joint comprising:

an outer member (16) connected to one of two shafts which are angularly movable relative to each other and having an inside-diameter surface having a plurality of first guide grooves (26a—26f) extending in an axial direction thereof, said outer member (16)

having an open end;

an inner ring (34) connected to the other of said two shafts and having as many second guide grooves (32a—32f) as the number of said first guide grooves (26a—26f), said second guide grooves (32a—32f) extending in an axial direction thereof;

six balls (28) rollingly disposed between said first guide grooves (26a—26f) and said second guide grooves (32a—32f), for transmitting a torque between said outer member (16) and said inner ring (34); and

a retainer (38) having retaining windows retaining said balls (28), respectively, therein,

wherein said first guide grooves (26a—26f) have a pitch circle diameter represented as an outer PCD, said second guide grooves (32a—32f) have a pitch circle diameter represented as an inner PCD, and a ratio (D_p/D) of a dimension (D_p) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, to a diameter (D) of an inner-ring serrated-region inside-diameter surface on an inner wall of said inner ring (34) is set in a range of $1.9 \leq (D_p/D) \leq 2.2$,

wherein a ratio (D_b/D_p) of a diameter (D_b) of said balls (28) to the dimension (D_p) of the outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, is set in a range of $0.2 \leq (D_b/D_p) \leq 0.5$, and

wherein a ratio (D_o/D_p) of an outside diameter (D_o) of said outer member (16) to the dimension (D_p) of the outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, is set in a range of $1.4 \leq (D_o/D_p) \leq 1.8$.

15. (Currently Amended) A constant-velocity joint comprising:

an outer member (16) connected to one of two shafts which are angularly movable relative to each other and having an inner circumferential surface having a plurality of first guide grooves (26a—26f) extending in an axial direction thereof, said outer member (16) having an open end;

an inner ring (34) connected to the other of said two shafts and having an outer circumferential surface having as many second guide grooves (32a—32f) as the number of said first guide grooves (26a—26f), said second guide grooves (32a—32f) extending in an axial direction thereof;

a plurality of balls (28) rollingly disposed between said first guide grooves (26a—26f) and said second guide grooves (32a—32f), for transmitting a torque between said outer member (16) and said inner ring (34); and

a retainer (38) having retaining windows (36) retaining said balls (28), respectively, therein,

wherein each of said retaining windows (36) has an opening length (WL) extending in a circumferential direction of said retainer (38), and a ratio (WL/N) of said opening length (WL) to a diameter (N) of said balls (28) is set in a range of $1.30 \leq (WL/N) \leq 1.42$.

16. (Currently Amended) A constant-velocity joint according to claim 15, wherein each of said retaining windows (36) has corners (36a) each having a radius (R) of curvature, and a ratio (R/N) of said radius (R) of curvature to the diameter (N) of said balls (28) is set in a range of $0.23 \leq (R/N) \leq 0.45$.

17. (Currently Amended) A constant-velocity joint according to claim 15, wherein each of said first guide grooves (26a—26f) and said second guide grooves (32a—32f) has a curved region and a straight region (S1, S2) extending in a longitudinal direction thereof.

18. (Currently Amended) A constant-velocity joint according to claim 15, wherein each of said first guide grooves (26a—26f) and said second guide grooves (32a—32f) has only a curved region extending in a longitudinal direction thereof.

19. (Currently Amended) A constant-velocity joint comprising:

an outer member (16) connected to one of two shafts (12, 18) which are angularly movable relative to each other and having an inner circumferential surface having a plurality of first guide grooves (26a—26f) extending in an axial direction thereof, said outer member (16) having an open end;

an inner ring (34) connected to the other of said two shafts and having as many second guide grooves (32a—32f) as the number of said first guide grooves (26a—26f), said second guide grooves (32a—32f) extending in an axial direction thereof;

six balls (28) rollingly disposed between said first guide grooves (26a—26f) and said second guide grooves (32a—32f), for transmitting a torque between said outer member (16) and said inner ring (34); and

a retainer (38) having retaining windows (36) retaining said balls (28), respectively, therein,

wherein each of said first guide grooves (26a—26f) has a transverse cross section extending perpendicularly to said axial direction and having a single arcuate shape, each of said first guide grooves (26a—26f) being held in contact with a corresponding one of the balls (28) at a single point,

wherein each of said second guide grooves (32a—32f) has a transverse cross section extending perpendicularly to said axial direction and having elliptically arcuate shape, each of said second guide grooves (32a—32f) being held in contact with a corresponding one of the balls (28) at two points, and

wherein said first guide grooves (26a—26f) have a pitch circle diameter represented as an outer PCD, said second guide grooves (32a—32f) have a pitch circle diameter represented as an inner PCD, and a PCD clearance represented by a difference between said outer PCD and said inner PCD (the outer PCD - the inner PCD) is set in a range from 0 to 100 μm .

20. (Currently Amended) A constant-velocity joint according to claim 19, wherein ratios of a radius (~~M~~) of each of said first guide grooves (~~26a—26f~~) in a transverse cross section thereof and radiuses (~~P, Q~~) of each of said second guide grooves (~~32a—32f~~) in a transverse cross section thereof to a diameter (~~N~~) of said balls (~~28~~) are set in a range from 0.51 to 0.55, a contact angle of each of the balls (~~28~~) with respect to one of said first guide grooves (~~26a—26f~~) is set to zero on a vertical line (~~L~~) extending across the ball (~~28~~), and a contact angle (α) of each of the balls (~~28~~) with respect to one of said second guide grooves (~~32a—32f~~) is set in a range from 13 degrees to 22 degrees from the vertical line (~~L~~).

21. (Currently Amended) A constant-velocity joint according to claim 19, wherein the contact angle (α) of each of the balls (~~28~~) with respect to one of said second guide grooves (~~32a—32f~~) is set in a range from 15 degrees to 20 degrees from the vertical line (~~L~~).

22. (Currently Amended) A constant-velocity joint according to claim 19, wherein a spherical clearance established as a sum of a difference between an outer member inner-spherical-surface diameter which is a diameter of an inside-diameter surface of said outer member (~~16~~) and a retainer outer-spherical-surface diameter which is a diameter of an outer surface of said retainer (~~38~~), and a difference between a retainer inner-spherical-surface diameter which is a diameter of an inner surface of said retainer (~~38~~) and an inner ring outer-spherical-surface diameter which is a diameter of an outer surface of said inner ring (~~34~~) is set in a range from 50 to 200 μm in accordance with the following expression:

$50\ \mu\text{m} \leq \{(\text{outer member inner-spherical-surface diameter}) - (\text{retainer outer-spherical-surface diameter})\} + \{(\text{retainer inner-spherical-surface diameter}) - (\text{inner ring outer-}$

spherical-surface diameter)) $\leq 200 \mu\text{m}$.

23. (Currently Amended) A constant-velocity joint according to claim 19, wherein each of said retaining windows (36) of the retainer (38) has a transverse center which is offset from a center of spherical outer and inner surfaces of said retainer (38) in an axial direction of the retainer (38) by a distance ranging from 20 to 100 μm .

24. (Currently Amended) A constant-velocity joint according to claim 19, wherein a ratio (D_p/D) of a dimension (D_p) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, to a diameter (D) of an inner-ring serrated-region inside-diameter surface on an inner wall of said inner ring (34) is set in a range of $1.9 \leq (D_p/D) \leq 2.2$.

25. (Currently Amended) A constant-velocity joint according to claim 19, wherein a ratio (D_b/D_p) of a diameter (D_b) of said balls (28) to a dimension (D_p) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, is set in a range of $0.2 \leq (D_b/D_p) \leq 0.5$.

26. (Currently Amended) A constant-velocity joint according to claim 19, wherein a ratio (D_o/D_p) of an outside diameter (D_o) of said outer member to a dimension (D_p) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, is set in a range of $1.4 \leq (D_o/D_p) \leq 1.8$.

27. (Currently Amended) A constant-velocity joint according to claim 19, wherein a ratio (D_p/D) of a dimension (D_p) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, to a diameter (D) of an inner-ring serrated-region inside-diameter surface on an inner wall of said inner ring (34) is set

in a range of $1.9 \leq (D_p/D) \leq 2.2$,

wherein a ratio (D_b/D_p) of a diameter (D_b) of said balls (28) to the dimension (D_p) of the outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, is set in a range of $0.2 \leq (D_b/D_p) \leq 0.5$, and

wherein a ratio (D_o/D_p) of an outside diameter (D_o) of said outer member (16) to the dimension (D_p) of the outer/inner PCD is set in a range of $1.4 \leq (D_o/D_p) \leq 1.8$.

28. (Currently Amended) A constant-velocity joint according to claim 19, wherein each of said retaining windows (36) has an opening length (WL) extending in a circumferential direction of said retainer (38), and a ratio (WL/D) of said opening length (WL) to a diameter (D) of said balls (28) is set in a range of $1.30 \leq (WL/D) \leq 1.42$.

29. (Currently Amended) A constant-velocity joint according to claim 28, wherein each of said retaining windows (36) has corners (36a) each having a radius (R) of curvature, and a ratio (R/N) of said radius (R) of curvature to the diameter (N) of said balls (28) is set in a range of $0.23 \leq (R/N) \leq 0.45$.

30. (Currently Amended) A constant-velocity joint according to claim 28, wherein each of said first guide grooves (26a—26f) and said second guide grooves (32a—32f) has a curved region and a straight region $(S1, S2)$ extending in a longitudinal direction thereof.

31. (Currently Amended) A constant-velocity joint according to claim 28, wherein each of said first guide grooves (26a—26f) and said second guide grooves (32a—32f) has only a curved region extending in a longitudinal direction thereof.

32. (Currently Amended) A constant-velocity joint comprising:

an outer member (16) connected to one of two shafts (12, 18) which are angularly movable relative to each other and having a spherical inside-diameter surface having a plurality of first guide grooves (26a—26f) extending in an axial direction thereof, said outer member (16) having an open end;

an inner ring (34) connected to the other of said two shafts and having as many second guide grooves (32a—32f) as the number of said first guide grooves (26a—26f), said second guide grooves (32a—32f) extending in an axial direction thereof;

six balls (28) rollingly disposed between said first guide grooves (26a—26f) and said second guide grooves (32a—32f), for transmitting a torque between said outer member (16) and said inner ring (34); and

a retainer (38) having retaining windows (36) retaining said balls (28), respectively, therein,

wherein each of said first guide grooves (26a—26f) has a transverse cross section extending perpendicularly to said axial direction and having a single arcuate shape, each of said first guide grooves (26a—26f) being held in contact with a corresponding one of the balls (28) at a single point,

wherein each of said second guide grooves (32a—32f) has a transverse cross section extending perpendicularly to said axial direction and having elliptically arcuate shape, each of said second guide grooves (32a—32f) being held in contact with a corresponding one of the balls (28) at two points,

wherein said first guide grooves (26a—26f) have a pitch circle diameter represented as an outer PCD, said second guide grooves (32a—32f) have a pitch circle diameter represented as an inner PCD, and a PCD clearance represented by a difference between said outer PCD and said inner PCD (the outer PCD - the inner PCD) is set in a range from 0 to 100 μm ,

wherein each of said first guide grooves (26a—26f) has a curved longitudinal cross section extending in the axial direction and having a center (H) of curvature, each of said

second guide grooves (32a—32f) has a curved longitudinal cross section extending in the axial direction and having a center (R) of curvature, and said centers (H, R) of curvature are offset oppositely in the axial direction by equal distances (T) from a center (K) of said spherical inside-diameter surface, and

wherein the ratio $V (T/N)$ of each of the distances (T) by which said centers (H, R) of curvature are offset from said center (K) of said spherical inside-diameter surface to the diameter (N) of said balls (28) is set to satisfy the expression $0.12 \leq V \leq 0.14$.

33. (Currently Amended) A constant-velocity joint according to claim 32, wherein ratios of a radius (M) of each of said first guide grooves (26a—26f) in a transverse cross section thereof and radiuses (P, Q) of each of said second guide grooves (32a—32f) in a transverse cross section thereof to a diameter (N) of said balls (28) are set in a range from 0.51 to 0.55, a contact angle of each of the balls (28) with respect to one of said first guide grooves (26a—26f) is set to zero on a vertical line (L) extending across the ball (28), and a contact angle (α) of each of the balls (28) with respect to one of said second guide grooves (32a—32f) is set in a range from 13 degrees to 22 degrees from the vertical line (L).

34. (Currently Amended) A constant-velocity joint according to claim 32, wherein the contact angle (α) of each of the balls (28) with respect to one of said second guide grooves (32a—32f) is set in a range from 15 degrees to 20 degrees from the vertical line (L).

35. (Currently Amended) A constant-velocity joint according to claim 32, wherein a spherical clearance established as a sum of a difference between an outer member inner-spherical-surface diameter which is a diameter of an inside-diameter surface of said outer member (16) and a retainer outer-spherical-surface diameter which

is a diameter of an outer surface of said retainer (38), and a difference between a retainer inner-spherical-surface diameter which is a diameter of an inner surface of said retainer (38) and an inner ring outer-spherical-surface diameter which is a diameter of an outer surface of said inner ring (34) is set in a range from 50 to 200 μm in accordance with the following expression:

$$50 \mu\text{m} \leq \{(\text{outer member inner-spherical-surface diameter}) - (\text{retainer outer-spherical-surface diameter})\} + \{(\text{retainer inner-spherical-surface diameter}) - (\text{inner ring outer-spherical-surface diameter})\} \leq 200 \mu\text{m}.$$

36. (Currently Amended) A constant-velocity joint according to claim 32, wherein each of said retaining windows (36) of the retainer (38) has a transverse center which is offset from a center of spherical outer and inner surfaces of said retainer (38) in an axial direction of the retainer (38) by a distance ranging from 20 to 100 μm .

37. (Currently Amended) A constant-velocity joint according to claim 32, wherein a ratio (D_p/D) of a dimension (D_p) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, to a diameter (D) of an inner-ring serrated-region inside-diameter surface on an inner wall of said inner ring (34) is set in a range of $1.9 \leq (D_p/D) \leq 2.2$.

38. (Currently Amended) A constant-velocity joint according to claim 32, wherein a ratio (D_b/D_p) of a diameter (D_b) of said balls (28) to a dimension (D_p) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, is set in a range of $0.2 \leq (D_b/D_p) \leq 0.5$.

39. (Currently Amended) A constant-velocity joint according to claim 32, wherein a ratio (D_o/D_p) of an outside diameter (D_o) of said outer member (16) to a

dimension (D_p) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, is set in a range of $1.4 \leq (D_o/D_p) \leq 1.8$.

40. (Currently Amended) A constant-velocity joint according to claim 32, wherein a ratio (D_p/D) of a dimension (D_p) of an outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, to a diameter (D) of an inner-ring serrated-region inside-diameter surface on an inner wall of said inner ring (34) is set in a range of $1.9 \leq (D_p/D) \leq 2.2$,

wherein a ratio (D_b/D_p) of a diameter (D_b) of said balls (28) to the dimension (D_p) of the outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, is set in a range of $0.2 \leq (D_b/D_p) \leq 0.5$, and

wherein a ratio (D_o/D_p) of an outside diameter (D_o) of said outer member (16) to the dimension (D_p) of the outer/inner PCD, which represents the outer PCD and the inner PCD that are equal to each other, is set in a range of $1.4 \leq (D_o/D_p) \leq 1.8$.

41. (Currently Amended) A constant-velocity joint according to claim 32, wherein each of said retaining windows (36) has an opening length (WL) extending in a circumferential direction of said retainer (38), and a ratio (WL/N) of said opening length (WL) to a diameter (N) of said balls (28) is set in a range of $1.30 \leq (WL/N) \leq 1.42$.

42. (Currently Amended) A constant-velocity joint according to claim 41, wherein each of said retaining windows (36) has corners (36a) each having a radius (R) of curvature, and a ratio (R/N) of said radius (R) of curvature to the diameter (N) of said balls (28) is set in a range of $0.23 \leq (R/N) \leq 0.45$.

43. (Currently Amended) A constant-velocity joint according to claim 41, wherein each of said first guide grooves (26a—26f) and said second guide grooves (32a—

32f) has a curved region and a straight region (~~S1, S2~~) extending in a longitudinal direction thereof.

44. (Currently Amended) A constant-velocity joint according to claim 41, wherein each of said first guide grooves (~~26a—26f~~) and said second guide grooves (~~32a—32f~~) has only a curved region extending in a longitudinal direction thereof.